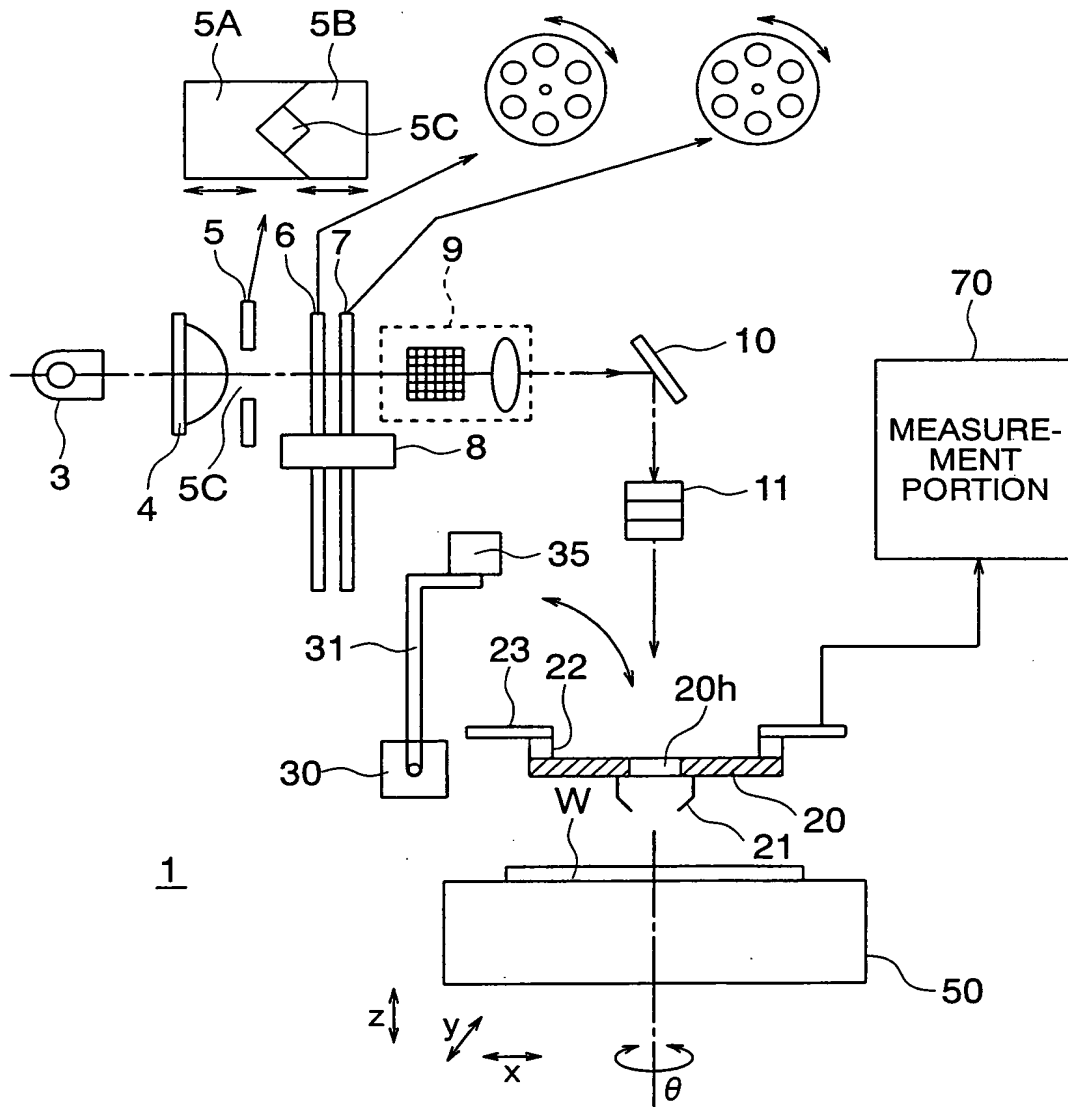


FIG. 1



The diagram shows a mechanical assembly for thickness measurement. A base 20 supports a vertical member 21 and a horizontal member 22. A probe 35 is attached to the end of member 22. To the left, a lever 31 is pivoted at point 30. The lever 31 has a curved contact tip 60 that rests against a workpiece W. A scale 23 is positioned vertically along the right side of the base. An arrow labeled L points downwards, indicating the direction of travel or measurement.

FIG. 3

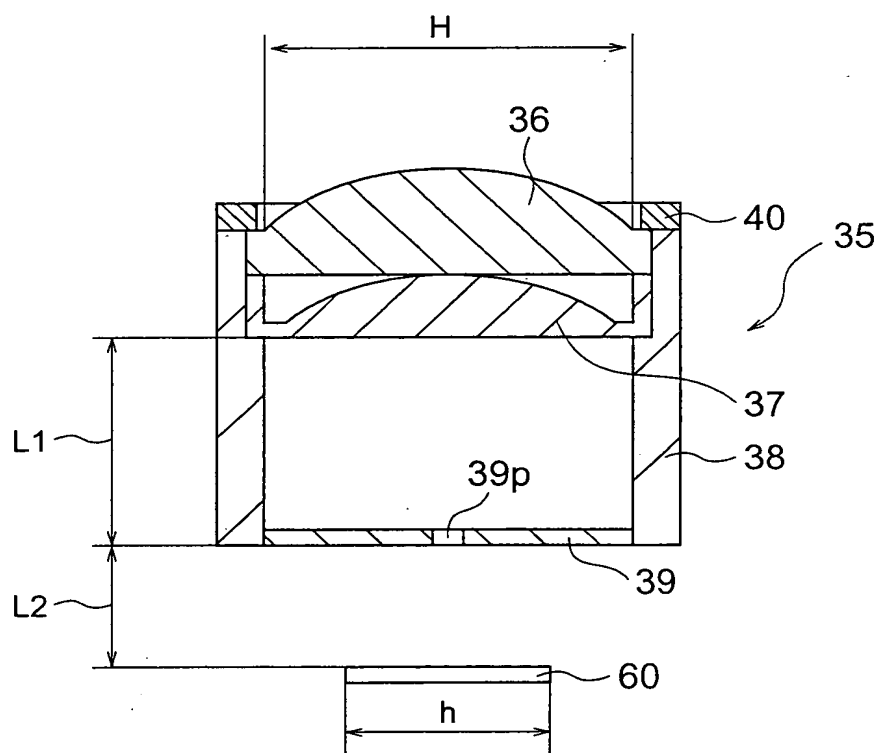


FIG. 4

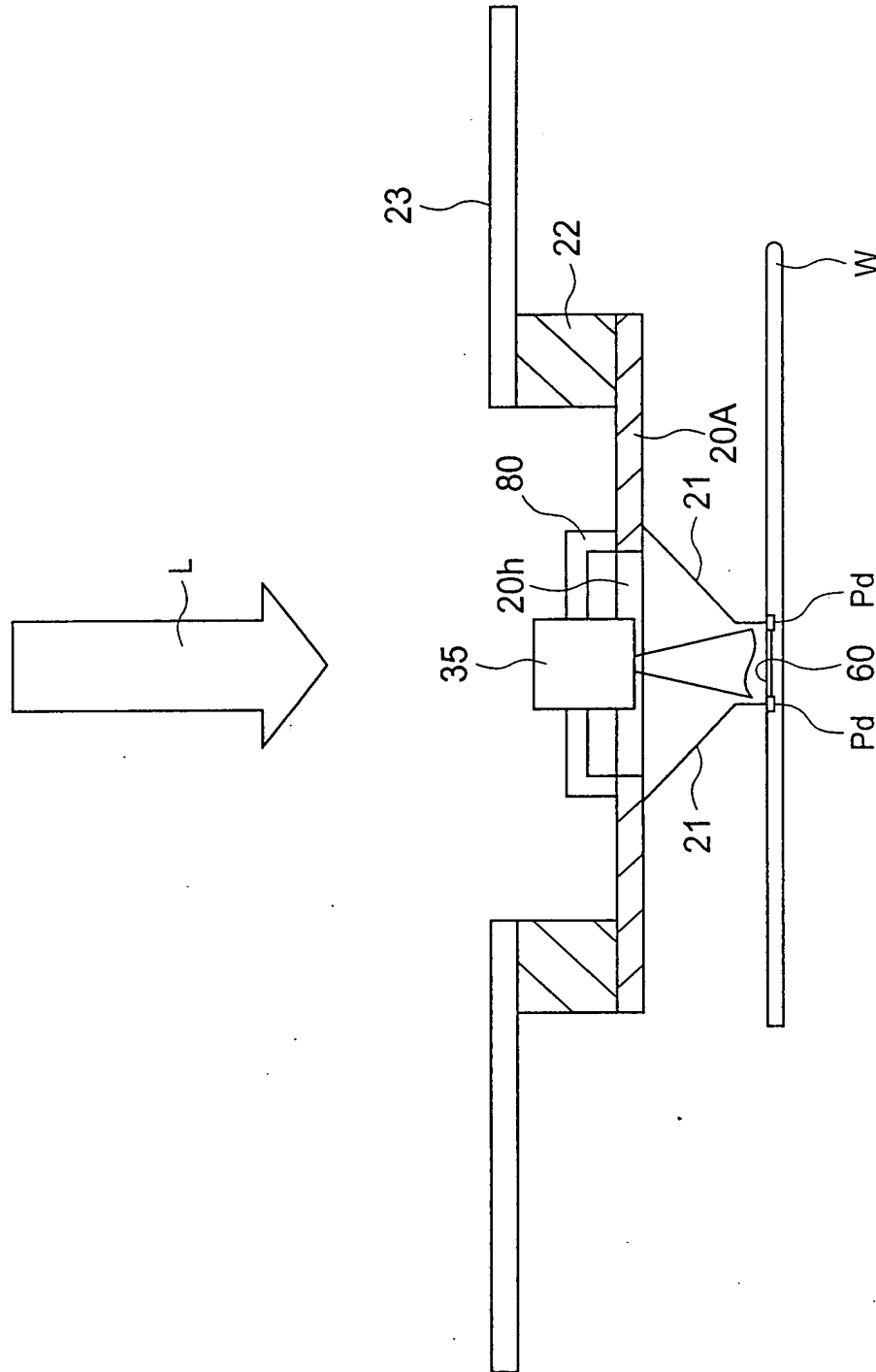


FIG. 5

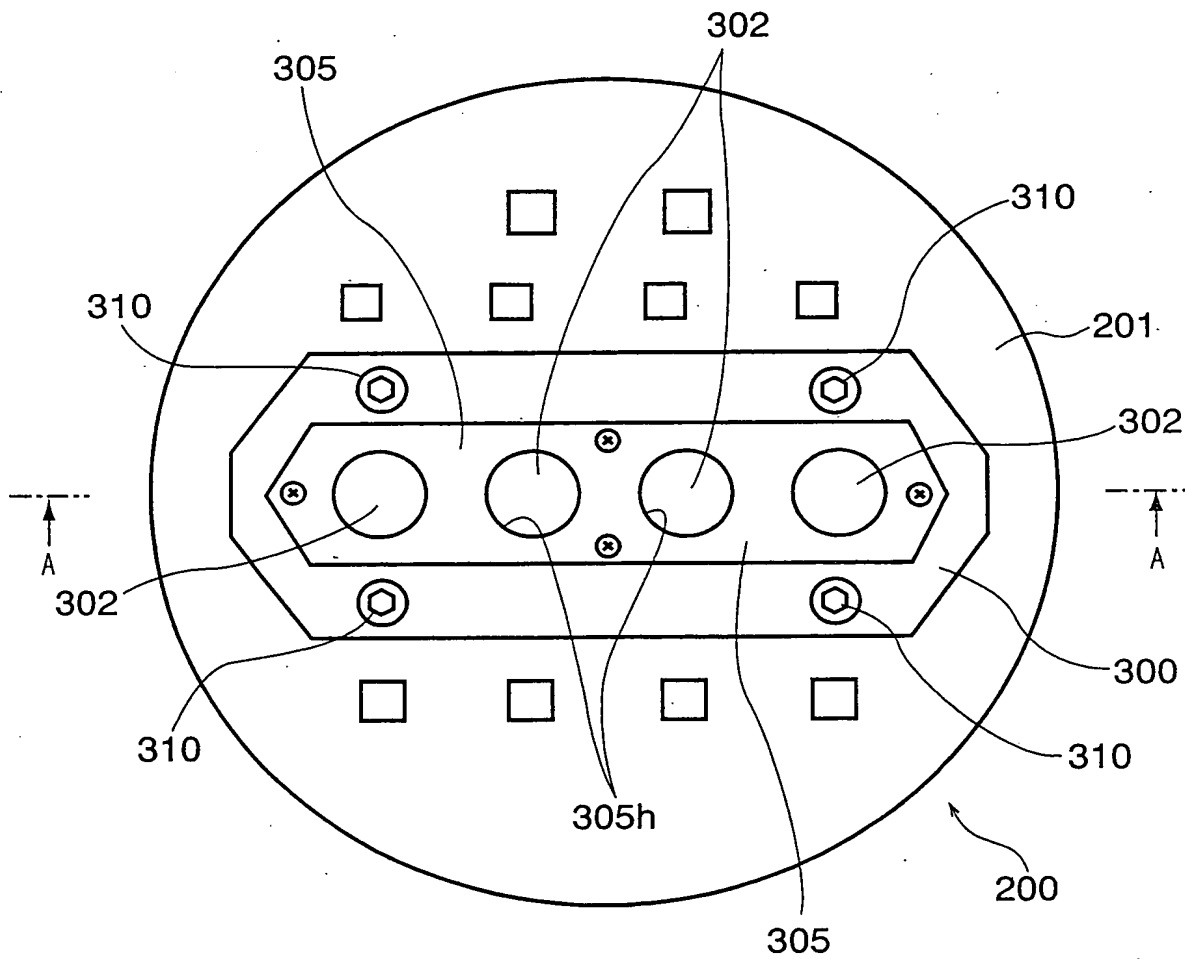


FIG. 6

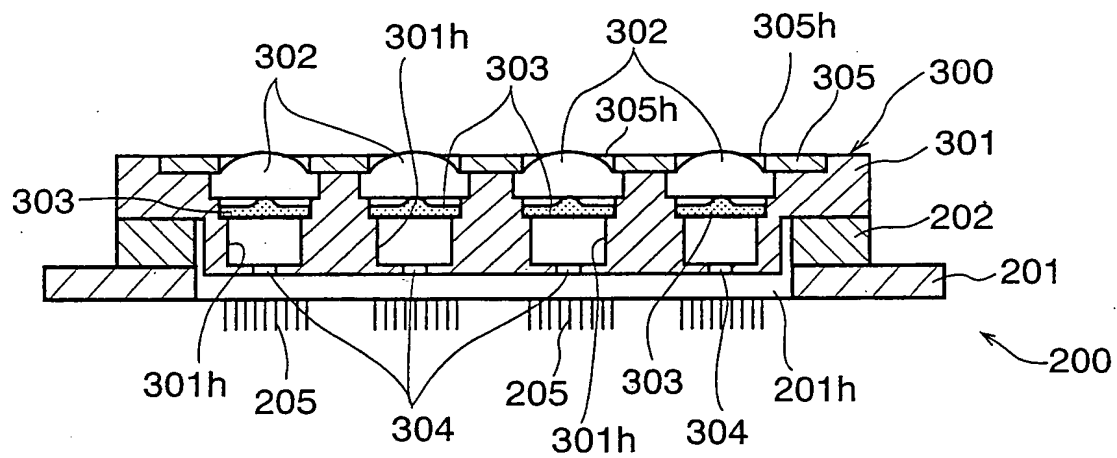


FIG. 7

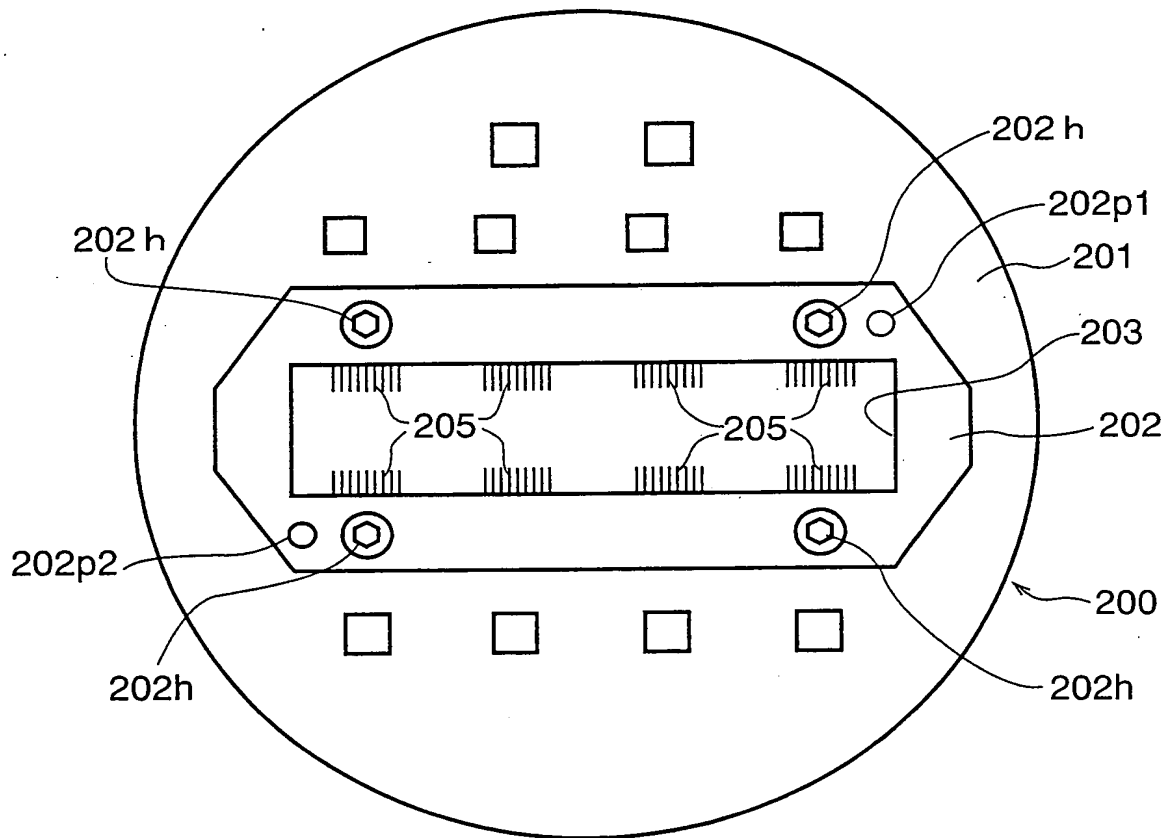


FIG. 8

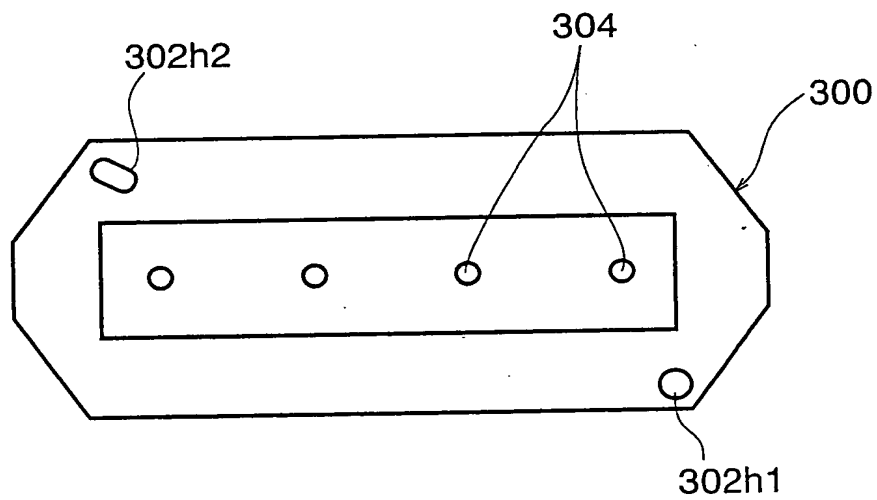
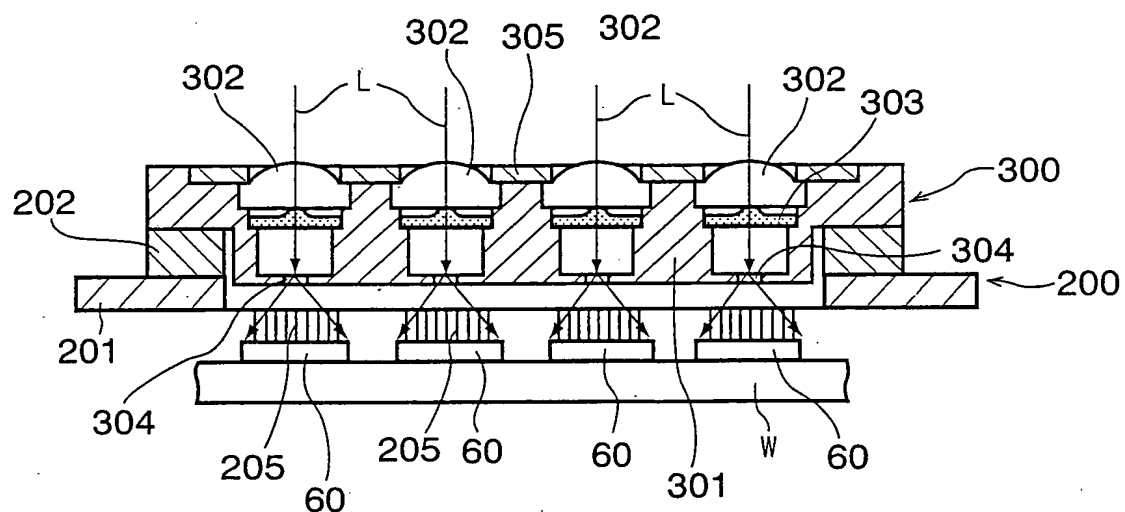


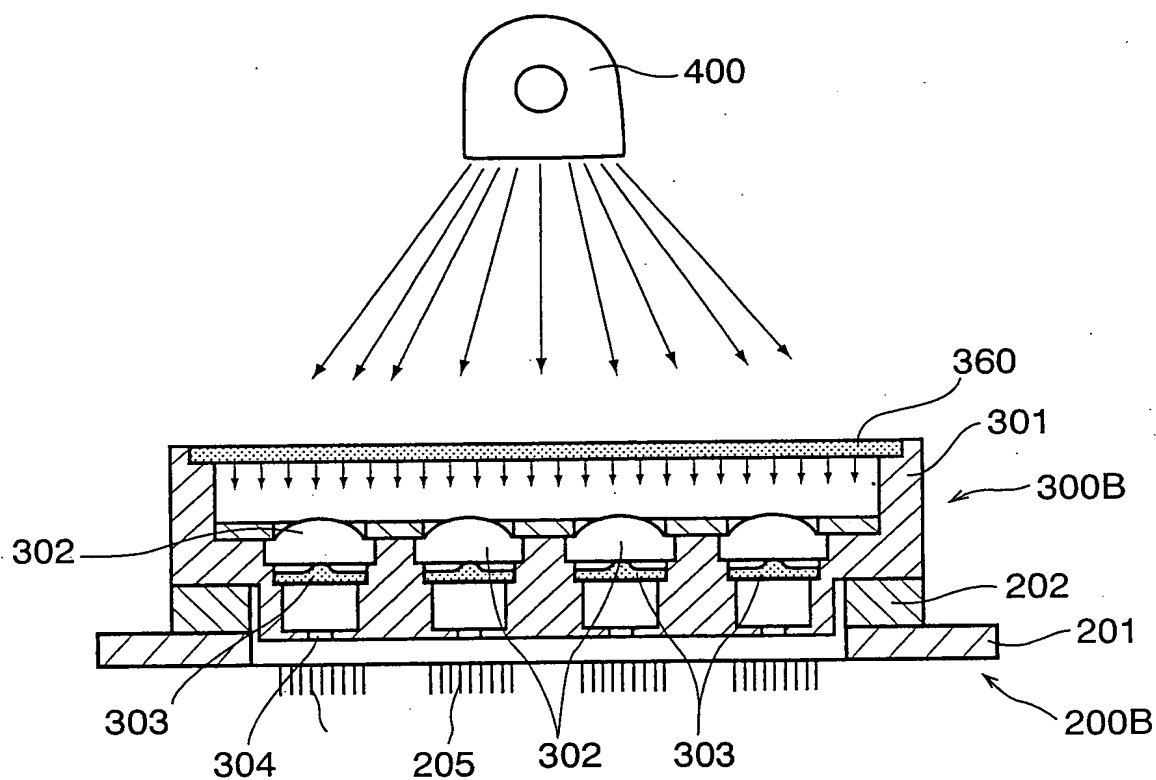


FIG. 9



[illegible]

FIG. 11



The diagram illustrates a measurement system 140 for a semiconductor device 160. The system includes a control device 150, a measurement device 160, and a stage 30. A light source 3 emits light through a series of optical components (4, 5A, 5B, 5C, 6, 7, 8, 9, 10, 11, 12, 13, 15, 18, 35) to illuminate the device 160. The device 160 is mounted on a stage 30 with x and y axes. The system is controlled by a control device 150 and a measurement device 160, with a power supply Ps connected to the stage 30.

FIG. 13

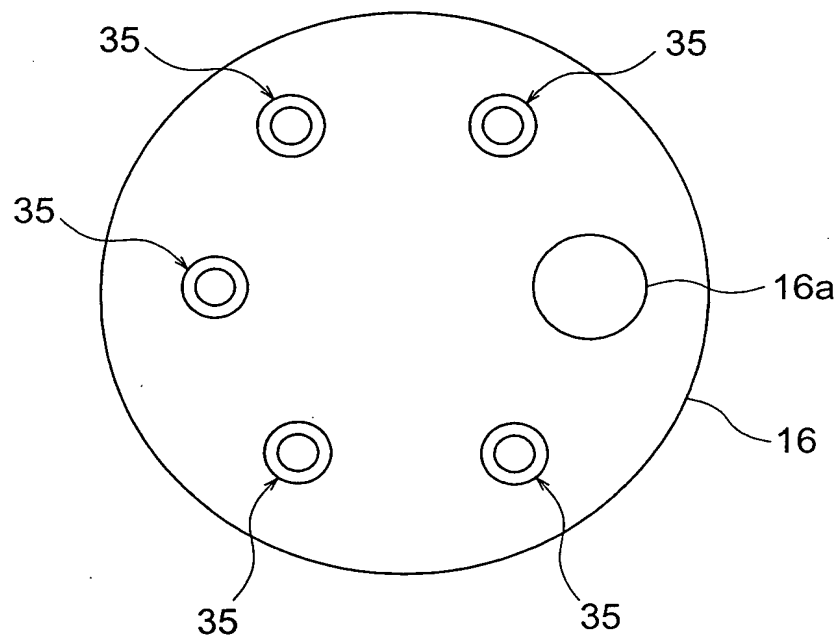
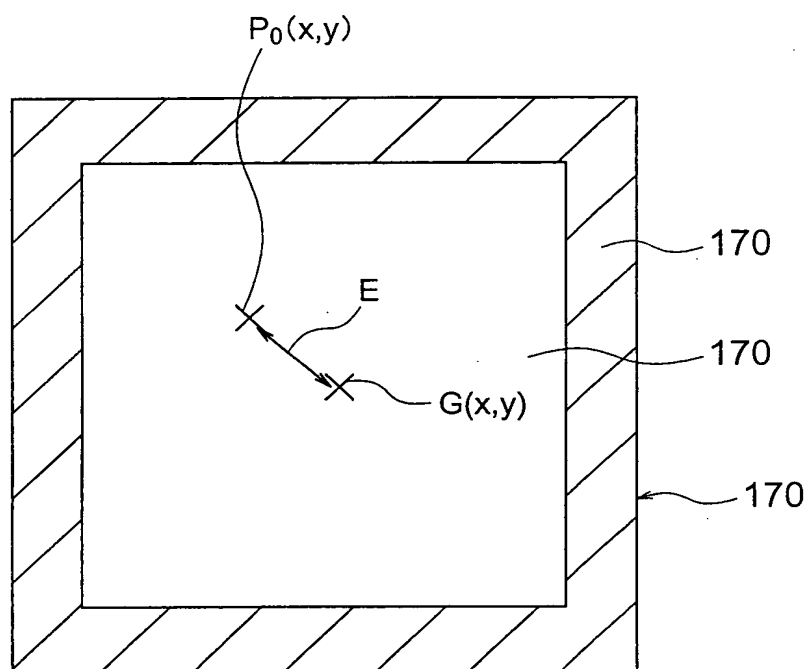




FIG. 15



Explanation of References

- 1... testing apparatus
- 3... light source
- 5 4... condensing lens
- 5... mechanical slit
- 6... ND filter turret
- 7... color filter turret
- 9, 11... homogenizer
- 10 12... half mirror
- 20... probe card
- 21... contact probe
- 22... pogo tower
- 23... mother board
- 15 30... motor
- 31... holding arm
- 35... optical module
- 36... lens
- 37... diffusion plate
- 20 38... cylinder member
- 39... pin hole plate
- 40... retainer ring
- 50... wafer table